

Ex. 2

Transcript of the Deposition
of Victor Stango
(Dec. 14, 2021)
Public Version Redacted

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH

- - - - -

BUREAU OF CONSUMER)	
FINANCIAL PROTECTION,)	
)	
Plaintiff,)	Case No.
)	2:19-cv-00298-BSJ
vs.)	
)	
PROGREXION MARKETING, INC.,)	
et al.,)	
)	
Defendants.)	

REMOTE VIDEOCONFERENCE

VIDEO-RECORDED DEPOSITION OF VICTOR STANGO

Tuesday, December 14, 2021, 8:13 a.m. Pacific Time

All Parties Appearing Remotely

Reported By: Marjorie Peters, FAPR, RMR, CRR, RSA

1 REMOTE VIDEOCONFERENCE
2 VIDEO-RECORDED DEPOSITION OF VICTOR STANGO,
3 a witness herein, called by the Plaintiff for
4 examination, taken pursuant to the Federal Rules of
5 Civil Procedure 5, by and before Marjorie Peters, a
6 Registered Merit Reporter, Certified Realtime
7 Reporter and Notary Public in and for the District
8 of Columbia, at All Parties Appearing Remotely, on
9 Tuesday, December 14, 2021, at 8:13 a.m. Pacific
10 Time.

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22

23

24

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1 P R O C E E D I N G S

2 THE VIDEOGRAPHER: Good morning. My
3 name is William Thomas. I am a certified legal
4 videographer. I'm sorry. Let me start that again.
5 My apologies.

6 Good morning. My name is William
7 Thomas. I'm a certified legal videographer in
8 association with TSG Reporting, Inc.

9 Due to the severity of the COVID-19
10 outbreak and following the practice of social
11 distancing, I will not be in the same room with the
12 witness; instead, I will record this videotaped
13 deposition remotely.

14 The reporter, Marjorie Peters, will
15 also not be in the same room and will swear the
16 witness remotely.

17 Do all parties stipulate to the
18 validity of this video recording and remote
19 swearing, and that it will be admissible in the
20 courtroom as if it had been taken following Rule 30
21 of the Federal Rules of Civil Procedure and the
22 State's Rule where this case is pending?

23 MS. HILMER: Bureau so stipulates.

24 MR. HARRINGTON: On behalf of all
25 Defendants, I stipulate.

1 THE VIDEOGRAPHER: All right. Thank
2 you.

3 So this is the start of media
4 labeled number one, taken in the -- of the
5 video-recorded deposition of Victor Stango --
6 Dr. Victor Stango, taken in the matter of Bureau of
7 Consumer Financial Protection v. Progrexion
8 Marketing, Inc., et al.

9 This is in the U.S. District Court,
10 District of Utah, Case Number 2:19-cv-00298-BSJ.

11 The time is 8:15 Pacific Time on
12 December 14, 2021. My name is William Thomas. I am
13 the videographer.

14 The court reporter is Marjorie
15 Peters, who is here in association with Heritage
16 Reporting.

17 Counsel, would you now identify
18 yourselves for this proceeding.

19 MS. HILMER: Tracy Hilmer on behalf
20 of the Bureau of Consumer Financial Protection.

21 MR. HARRINGTON: William Harrington
22 on behalf of all Defendants.

23 THE VIDEOGRAPHER: And will the
24 court reporter now please swear in the witness.

25 COURT REPORTER: Prior to going on

1 the record, I confirm the witness's drivers license
2 for today's hearing.

3 VICTOR STANGO,
4 a witness, having been first duly sworn, was
5 examined and testified as follows:

6 DIRECT EXAMINATION

7 BY MS. HILMER:

8 Q. Good morning, Dr. Stango.

9 A. Good morning.

10 Q. Would you please state your full name
11 for the record.

12 A. Victor Oreste Stango III.

13 Q. Just for the record, you are currently
14 based in California?

15 A. Yes.

16 Q. All right.

17 Have you given a deposition before?

18 A. Yes.

19 Q. How many times?

20 A. I believe this is roughly my tenth.

21 Q. Okay.

22 So you're probably familiar with the
23 process, but I'd like to go over that process with
24 you just so we're all on the same page.

25 Is that all right?

1 A. Yes.

2 Q. So I'll be asking you questions and
3 expecting you to answer those questions.

4 If any question I ask you requires
5 clarification, you haven't heard it, you haven't
6 fully understood it, will you please let me know?

7 A. Okay.

8 Q. If you answer the question, I will
9 assume that you understood it; is that fair?

10 A. Yes.

11 Q. Okay.

12 Now, when you answer the question,
13 it's important that you give a verbal answer because
14 we have a court reporter here who's taking
15 everything down, and she can't record easily a shake
16 or nod of the head.

17 So please give a verbal answer.

18 A. Okay.

19 Q. If you don't, I may remind you to do
20 that, but -- or the court reporter may, but let's
21 try our best.

22 Also, especially in this remote
23 setting where there can be delays in the feed, it's
24 important for us to try our very best not to talk
25 over each other; again, because the court reporter

1 needs to make a record, and she won't be able to
2 hear what we're saying if we're talking at the same
3 time.

4 So I will do my very best to let you
5 complete an answer, and I'll ask you to help by
6 letting me finish a question.

7 Okay?

8 A. Yes.

9 Q. Also, with regard to breaks, it's my
10 usual practice to take a break about every hour or
11 so, plus a lunch break.

12 You're on the West Coast, but I
13 recognize that you probably started quite early for
14 your time, and so we may be looking at a lunch break
15 somewhere around the 1:30 to 2:00 p.m. Eastern Time.

16 Does that work for you?

17 A. Sure. Yes.

18 Q. Okay. You know, if you need a break
19 before then, or if I've kind of overrun my usual
20 hour practice, please feel free to take a break --
21 or to ask me for a break, and I'll go off the record
22 as soon as I finish my line of questioning.

23 Okay?

24 A. Okay.

25 Q. All right. Very good.

1 Do you have any questions before we
2 begin?

3 A. No.

4 Q. All right.

5 Why don't we just start right in,
6 then.

7 All right. Let's mark our first
8 exhibit, which will be the subpoena that you
9 received, and that will be Exhibit 475.
10 (Exhibit 475, Subpoena, was marked for
11 identification.)

12 Q. Will my assistant please mark that
13 exhibit, and show it. This is a good test of our
14 AgileLaw program.

15 Do you see what's been marked as
16 Exhibit 475, which was the subpoena for your
17 deposition?

18 A. Yes, I can view something on my screen
19 that appears to be a subpoena.

20 Q. Did you receive this document?

21 A. Yes.

22 Q. Okay.

23 If I can have you scroll towards the
24 back. See if we can get this to work for us. It's
25 a little bit slow this morning.

1 Let me have you go to page 16 of the
2 document. So that's PDF page 16.

3 A. I'm on PDF page 16, I believe.

4 Q. Okay. Great.

5 Do you see it says there: "Requests
6 for Production"?

7 A. Yes.

8 Q. Okay.

9 Then on the next page, and the
10 following pages, do you see additional enumerated
11 requests for production?

12 A. Yes, I do.

13 Q. Did you provide documents in response to
14 this subpoena?

15 A. I don't recall precisely which documents
16 were produced by counsel. I had a communication
17 with Cornerstone Research about the request for
18 production and was told that beyond the materials I
19 produced with my expert report, we would not be
20 expecting that we would produce anything further.

21 Q. I see. Okay.

22 So you have produced no other
23 documents -- well, I'm going to withdraw that
24 question because I know you produced a couple of
25 invoices recently; right?

1 A. If I produced them, then that's correct,
2 yes.

3 Q. Did all of -- let me just step back.

4 Process-wise, did all of the
5 production come from Cornerstone, or did it come
6 from you?

7 A. I worked with Cornerstone in the
8 production of the documents associated with my
9 expert report.

10 Q. Okay.

11 So did they have some of the
12 documents, and you had others?

13 A. That may have been true, yes.

14 Q. Okay.

15 All of -- whatever you had, you
16 delivered to Mr. Harrington and his team; is that
17 fair?

18 A. I may have delivered them via
19 Cornerstone.

20 Q. I see. Okay.

21 It's your understanding that
22 Cornerstone then delivered all of the documents to
23 Mr. Harrington and his team?

24 A. That may have been the case, yes.

25 Q. All right.

1 Let me ask my assistant to mark our
2 second exhibit, and this is the document called
3 Stango, many zeros, 1.

4 We'll mark that as our next Exhibit,
5 476.

6 (Exhibit 476, Goodwin letter 10.1.2021, was marked
7 for identification.)

8 Q. Please let me know when you can see it,
9 Dr. Stango.

10 A. I see a document with a heading
11 "Goodwin."

12 Q. Yep.

13 And a date of October 1st, 2021?

14 A. Yes.

15 Q. Do you recognize this document?

16 A. Yes.

17 Q. What is this document?

18 A. This appears to be the engagement
19 agreement that I signed.

20 Q. Okay.

21 I'm not seeing -- I see. Okay.
22 Your signature is on the very last page; is that
23 right? Under "Agreed and Accepted."

24 A. Yes.

25 Q. Okay.

1 Now, this document indicates that
2 you're to be paid an amount of \$1,100 per hour for
3 your work; is that correct?

4 A. Yes. I read where it says that my
5 compensation is \$1,100 per hour.

6 Q. Is that the amount that you are being
7 paid for your work in this case?

8 A. It's my billing rate, yes.

9 Q. I guess I'm asking if that's what you're
10 being paid, not just whether it's your billing rate.

11 A. Let me clarify.

12 (Clarification requested by the Court Reporter.)

13 MR. HARRINGTON: I said objection.
14 Ambiguous.

15 Q. You can answer.

16 A. I'll try to clarify.

17 It's the amount that appears on my
18 invoices as an hourly rate, but I have not actually
19 received payment for some of the -- or, actually,
20 the invoices that I've submitted.

21 Q. You submitted have approximately \$55,000
22 worth of -- or invoices seeking about \$55,000 worth
23 of payment?

24 Is that about right?

25 A. I recall the number being somewhere in

1 that range, yes.

2 Q. Okay.

3 And you haven't been paid?

4 A. Not yet, no.

5 Q. Now, can you explain to me what your
6 relationship is with Cornerstone in the context of
7 this case?

8 MR. HARRINGTON: Objection.

9 Ambiguous.

10 A. Cornerstone assisted me and worked under
11 my direction in preparation of my expert report.

12 Q. Are they also handling your billing?

13 A. Not sure what you mean by "handling
14 billing," but I do send my invoices to Cornerstone
15 Research on a monthly basis.

16 Q. Okay.

17 So are you expecting payment through
18 Cornerstone?

19 A. I can't be 100 percent sure since this
20 invoicing practice is a relatively new one for me.

21 But I believe that the way it would
22 work is that I invoice Cornerstone, and they
23 transmit the invoices to the client, after which I
24 receive a payment from Cornerstone Research.

25 Q. Okay.

1 Now, you indicated that in this
2 matter, Cornerstone is -- has assisted you; correct?

3 A. Yes.

4 Q. What have they done for you?

5 A. They worked under my direction to
6 conduct data analyses.

7 Q. Did they conduct all of the data
8 analyses that are reflected in the tables in your
9 report?

10 A. I and Cornerstone conducted those
11 analyses, yes.

12 Q. Okay.

13 I guess in terms of maybe I can be a
14 little more colloquial and ask about the data
15 crunching.

16 Did Cornerstone do the data
17 crunching or did you undertake some of that
18 yourself?

19 MR. HARRINGTON: Objection.
20 Compound.

21 A. I'm not sure what would constitute data
22 crunching, but Cornerstone, under my direction
23 worked and assisted me in conducting a fair amount
24 of the data analysis. I guess that's the best way I
25 would characterize it.

1 Q. Okay.

2 What specific analyses did you do on
3 your own?

4 MR. HARRINGTON: Objection. Assumes
5 facts not in evidence. Ambiguous.

6 Q. You can answer.

7 MR. HARRINGTON: Mischaracterizes
8 the prior testimony.

9 A. I didn't undertake a detailed
10 enumeration of which analyses I have conducted on my
11 own, nor really am I sure what that would mean in
12 this context since we were working together.

13 I reviewed data. I worked with the
14 team to discuss analyses, and they worked under my
15 direction in conducting those analyses.

16 Q. Okay. All right.

17 Dr. Stango, you have a PhD; is that
18 right?

19 A. Yes.

20 Q. In what discipline is your PhD?

21 A. Economics.

22 Q. Are you an attorney?

23 A. No.

24 Q. Have you attended law school at all?

25 A. No, I have not.

1 Q. All right.

2 Your CV indicates that you currently
3 serve at the Federal Reserve Bank of Philadelphia as
4 a visiting scholar; is that right?

5 A. Yes.

6 Q. What do you -- are you paid for that --
7 withdraw the question.

8 Are you paid for that service as a
9 visiting scholar?

10 A. I believe, and it's been a while since
11 I've visited the bank, due to COVID, but I believe
12 that I receive a per diem for each day that I spend
13 in the bank as a visiting scholar. I also am
14 reimbursed for my expenses associated with visiting
15 the bank.

16 Q. Okay.

17 Do you do actual work for the bank?

18 MR. HARRINGTON: Objection. Vague.
19 Argumentative.

20 A. I'm not sure what you mean by "actual
21 work." If you could be more specific --

22 Q. Yeah. Let --

23 A. -- I'll give you an answer.

24 Q. Why don't I just back up.

25 When was the last time you were in

1 the Federal Reserve Bank in Philadelphia?

2 A. I can't recall the exact date. It would
3 have been before the pandemic. And I recall -- I
4 recall visiting the bank in the fall when I was
5 there last, but as I sit here, I can't recall
6 whether it was the fall immediately preceding the
7 pandemic or the one prior to that.

8 Q. Okay.

9 What does your status as a visiting
10 scholar at the bank involve?

11 A. I can't recall the specifics of the
12 visiting scholar contract that -- under which I
13 work, and which would define all of the specifics of
14 my relationship.

15 But generally speaking, I visit the
16 bank to discuss research ideas, occasionally to
17 present research, and there's an opportunity for me
18 to publish papers in the bank's working paper
19 series, which contains academic research by people
20 like myself.

21 Q. Is it the case that you held a similar
22 visiting scholar position at the Federal Reserve
23 Bank in New York at one point?

24 A. Yes, that's correct.

25 Q. Did that service involve the same kinds

1 of activities that you just described with respect
2 to the Philadelphia Federal Reserve Bank?

3 A. At a high level, yes. Some of the
4 specifics may have differed. I was visiting that
5 bank for a period of several months consecutively,
6 rather than occasionally over the course of a year,
7 for example. That would be one difference.

8 Q. Did any of your activities at either of
9 the Federal Reserve Banks involve participation in
10 rule-making activity?

11 A. No. Not at the banks where I was a
12 visiting scholar, and -- I'm not quite sure what you
13 mean by "participation in rule-making," but I
14 believe the answer would be no.

15 Q. Okay.

16 Are you familiar with Agency
17 rule-making processes and how they happen?

18 A. I'm not sure I understand what you mean
19 by "agency rule-making processes" in this particular
20 situation.

21 Q. All right.

22 Are there any particular regulations
23 or proposed regulations that you have either worked
24 on -- that you have worked on while you were as a
25 visiting scholar at either of the banks?

1 A. No. I don't recall being part of any
2 rule-making discussions or processes, at least as I
3 would conceive of them.

4 Q. Okay.

5 Have you commented on any rules
6 proposed by the Federal Reserve Board?

7 MR. HARRINGTON: Objection. Vague.

8 A. Yeah. I'm not sure what "comment" would
9 mean in that context, as I understand it may have
10 more or less formal definitions in some contexts.

11 Q. Okay.

12 Are you familiar that -- with the
13 Notice and Comment process that's involved with
14 Federal rule-making?

15 A. I've heard discussions of such a
16 process, but I wouldn't claim to know every detail
17 of how it works.

18 Q. That's fine.

19 I'm asking whether you have ever
20 participated, submitted comments, in connection with
21 a Notice and Comment process for any Federal agency?

22 A. I don't recall having done so,
23 particularly recently.

24 Q. Okay.

25 Have you worked for any other

1 Federal Government agency besides the Federal
2 Reserve Banks?

3 A. In terms of full-time employment or
4 sustained involvement, no. I can't recall whether I
5 may have done any contract work in the past for a
6 Federal agency or even what would constitute a
7 Federal agency in every instance, but no would be my
8 answer, as I sit here today.

9 Q. Okay.

10 Have you ever worked for the Federal
11 Trade Commission in any capacity?

12 A. No, not that I recall.

13 Q. Have you ever worked for the Consumer
14 Financial Protection Bureau in any capacity?

15 A. No, I have not. I have visited the
16 CFPB, but I have not been employed by the CFPB.

17 Q. I guess what I would ask is whether you
18 have been engaged as a contractor in any capacity by
19 the CFPB?

20 A. Not that I recall, no. I interviewed
21 for a job there, but I never worked there.

22 Q. Okay.

23 How about the FTC; have you ever
24 been involved as a contractor for the Federal Trade
25 Commission?

1 A. Not that I recall, no.

2 Q. All right. Right.

3 So let's mark our next exhibit,
4 which will be Exhibit 477, and this will be your
5 expert report dated October 25, 2021.

6 And I'll ask my colleague to bring
7 this up.

8 (Exhibit 477, Stango expert report, 10.25.2021, was
9 marked for identification.)

10 Q. Would you let me know when you can see
11 it, Dr. Stango.

12 A. I can see the first page of the
13 document.

14 Q. Okay.

15 Do you want to take a look through
16 it and verify that this is, in fact, your expert
17 report submitted in this matter dated October 25,
18 2021?

19 A. Yes, please.

20 It appears to be my expert report.

21 Q. Great.

22 Could you please take a look at page
23 38 of the document. And again, in AgileLaw, you can
24 type in the page number at the bottom, it might go
25 quicker.

1 A. Thanks. I'll -- I'll look for that.

2 I'm on page 38 of the PDF.

3 Q. Yes.

4 Do you see your signature there?

5 A. Yes.

6 Q. Right.

7 This is page 36 of the report, but
8 38 of the PDF; correct?

9 A. Yes.

10 Q. Right. All right.

11 Let's mark the next exhibit, which
12 will be 478, and this will be the 12/09/2021
13 corrections to the expert report of Dr. Stango.
14 (Exhibit 478, Stango expert report, 12.9.2021, was
15 marked for identification.)

16 Q. Please let me know when you can see that
17 document.

18 A. I can see it.

19 Q. Okay.

20 Feel free to take a look at it, and
21 let me know if this is, in fact, certain corrections
22 that you provided on December 9th in connection with
23 your October 25th expert report in this case.

24 A. Yes. This is the set of corrections.

25 Q. Okay.

1 Just to be clear, do you regard any
2 of these corrections as substantive corrections to
3 your report?

4 A. I'm not sure what you mean by
5 "substantive," but none of them alter my opinions or
6 conclusions in the report.

7 Q. Okay.

8 I guess my question is, are they
9 citation -- correcting potential citation errors as
10 opposed to offering some type of alternative or
11 additional opinion?

12 MR. HARRINGTON: Objection.
13 Compound.

14 A. So the ones on page 2 of the PDF are, as
15 you say, corrections to footnotes.

16 On page 3, there is a corrected
17 version of one of the tables that appears in my
18 expert report.

19 And I don't believe it changes the
20 percentage figures in the second column to the first
21 decimal, if that gives a sense of the magnitude of
22 the change in that table.

23 Q. Are the changes that you made only with
24 respect to the second part of the table that deals
25 with Counts 2 through 5?

1 A. I can quickly confirm that if I look at
2 the original table in my report. It would only take
3 me a moment. That may be the case, but I prefer to
4 confirm it before answering your question.

5 Q. Please.

6 And that -- by the way, Table 2 in
7 your original report is found on page 28 of the
8 report, which might be 30 of the PDF.

9 And that's Exhibit 477.

10 A. Yes. So it appears -- I'm trying to
11 hold the numbers in my head because I haven't
12 figured out how to look at them next to each other.

13 It appears that the change applies
14 only to the figures in rows -- what I'll call rows 3
15 and 4 pertaining to Counts II through IV.

16 Q. Can you just explain what the reason for
17 the correction was.

18 A. Sure.

19 In the original table, the product
20 that I'll call "Hold," which is listed in footnote
21 2, was classified as a credit repair product rather
22 than in the Other category.

23 The total dollar amount of payments
24 associated with the Hold product is, as I said,
25 fairly small because it doesn't affect the

1 percentages in the second column.

2 So the original table, as I said,
3 included Hold in row 3, and it should have included
4 Hold in row 4, the Other category, as indicated by
5 footnote 2.

6 So that's the correction.

7 Q. Is that the only change that you made to
8 the figures that were shown in the original Table 2
9 in your report?

10 A. Yes.

11 Q. Very good.

12 MS. HILMER: All right. I'm going
13 to pause at this moment to go off the record, and
14 let our videographer just test his audio quality.

15 THE VIDEOGRAPHER: We're going off
16 record. The time is 8:46.

17 (Off the record.)

18 (RECESS, 8:46 a.m. - 8:52 a.m.)

19 THE VIDEOGRAPHER: We're back on
20 record. The time is 8:52.

21 BY MS. HILMER:

22 Q. Okay.

23 Dr. Stango, do you have a hard copy
24 of your October 25th report available to you?

25 A. Yes.

1 Q. Okay.

2 I -- unless your counsel objects, I
3 would invite you to use it because it will make it
4 easier for you to look at exhibits on the screen and
5 answer questions from the report without too much
6 toggling back and forth.

7 A. Okay.

8 Thank you.

9 Q. Would you let me know when you have that
10 available.

11 A. I have it in front of me now.

12 Q. Great. Okay.

13 So turning to Exhibit 477, your
14 expert report, Paragraph 2, you identify yourself as
15 an expert on consumer behavior in financial service
16 markets; is that correct?

17 A. Yes.

18 Q. Is that a field of study within the
19 larger discipline of economics?

20 A. It's the subject of much of my academic
21 research, and I would list it as the primary area of
22 my research is financial service markets.

23 Q. Specifically, consumer behavior;
24 correct?

25 A. My research focuses on both consumer

1 behavior and firm behavior, but I've examined both.

2 Q. Okay.

3 Is consumer behavior in financial
4 service markets part of the larger field of research
5 known as behavioral economics?

6 A. I would say that I would also
7 characterize myself as a behavioral economist.

8 The field of research in banking
9 would include work done by behavioral economists and
10 work done by people who might not call themselves
11 behavioral economists.

12 But I'm a behavioral economist.

13 Q. Now, can you please describe what
14 behavioral economists study?

15 A. I'm not sure I could tell you what every
16 behavioral economist studies.

17 But, in my case, I would call my
18 work as taking the tools of economics and
19 incorporating insights from psychology to the
20 understanding of individual behavior and
21 decision-making.

22 Q. Okay.

23 Particularly, financial
24 decision-making; is that fair?

25 A. Other behavioral economists might study

1 other types of decisions, but those are the ones on
2 which I focus.

3 Q. So just to be clear, your focus is -- to
4 be colloquial, perhaps, your focus studies the
5 impact of consumer behavior on consumer financial
6 decision-making; is that fair?

7 A. Sure. I study the relationship between
8 them, is the way I would characterize it is that
9 there's a link between the two and there's a
10 context --

11 MR. HARRINGTON: Objection to the
12 question as mischaracterizes the testimony.

13 (Clarification requested by the Court Reporter.)

14 MS. HILMER: Can you read the last
15 question.

16 (The record was read back by the Court Reporter.)

17 Q. Is it fair to say that what you study is
18 the effect of consumer behavioral factors on
19 consumer financial decision-making?

20 MR. HARRINGTON: Objection.
21 Mischaracterizes the witness's prior testimony.

22 A. I would say that I study links between
23 consumer behavior and financial decisions and
24 financial outcomes, at least in some of my research,
25 if that's what you mean.

1 Q. Yeah. In your work, have you identified
2 errors that consumers make when they're approaching
3 financial decisions?

4 MR. HARRINGTON: Objection. Vague.

5 A. I would call one thing that I've
6 studied, the classification of behavioral biases,
7 which could be connected to the concept of errors,
8 yes.

9 Q. Okay.

10 Let's bring up our next exhibit,
11 which is called Stango Zinman 2009 JOF EXP Growth,
12 and that will be Exhibit 479.

13 (Exhibit 479, Stango/Zinman study, Exponential
14 Growth Bias and Household Finance, was marked for
15 identification.)

16 Q. Let me know when you see it.

17 A. I see it.

18 Q. Is this a paper that you authored?

19 A. It appears to be a copy of a paper that
20 I wrote with Jon Zinman, yes.

21 Q. Do you want to look at the next page and
22 see if it's the paper that you wrote?

23 A. The next page appears to be the next
24 page of that paper, yes. I haven't paged through
25 the whole thing.

1 Q. Okay.

2 Let me invite you to -- well, I'll
3 just draw your attention to the second paragraph on
4 the second page of the document.

5 And the title of this document is:
6 "Exponential Growth Bias and Household Finance."

7 Correct?

8 A. Yes.

9 Q. All right.

10 So that second paragraph says, "We
11 begin by tying together existing and new evidence on
12 these cost perceptions to show that most consumers
13 err systematically when given information commonly
14 available in the market."

15 Have I read that correctly?

16 A. Yes.

17 Q. Is it fair to say that in this paper,
18 you and your co-author determined that people
19 underestimate the value of compounding on savings
20 over time?

21 A. I think that's generally true. What we
22 would say is that we show that consumers can
23 underestimate the future value associated with
24 savings due to compounding over time.

25 Q. Right.

1 So, in other words, a dollar saved
2 today is worth quite a bit more in the future;
3 correct?

4 MR. HARRINGTON: Objection.
5 Ambiguous.

6 A. That would depend, but it could be if
7 the consumer were saving money and earning interest
8 on it.

9 Q. Or investing it; correct?

10 A. Yes. Yes, I would view those as
11 equivalent.

12 Q. Okay.

13 MR. HARRINGTON: Objection.
14 Ambiguous.

15 Q. Did you also conclude with your
16 co-author that people -- consumers underestimate the
17 cost of -- let me withdraw that question.

18 That they -- withdraw the question.

19 Did you also conclude in this paper
20 with your co-author that consumers frequently
21 underestimate the true interest rate for borrowings?

22 A. The statement was a little bit different
23 than that. We presented consumers -- or the survey
24 that we used, which wasn't designed by us, presented
25 consumers with a hypothetical loan scenario and

1 asked them to estimate the interest rate on a loan
2 associated with the principal monthly payment and
3 maturity, and what we show is that many consumers
4 underestimate that interest rate.

5 Q. Okay.

6 In other words, is it fair to say
7 that particularly with regard to short-term
8 borrowings, like short-term loans, many people did
9 not realize how high the actual interest rate was
10 that they were paying?

11 MR. HARRINGTON: Objection. Calls
12 for speculation. Mischaracterizes the witness's
13 testimony.

14 A. I'd like to hear the question again,
15 please.

16 MS. HILMER: Can you read it back.

17 THE COURT REPORTER: Yes.

18 (The record was read back by the Court Reporter.)

19 A. In this context, when presented with
20 these survey questions, many people underestimated
21 the loan interest rate --

22 Q. Is it fair to say that you found that to
23 be particularly true with shorter term loans?

24 MR. HARRINGTON: Objection.
25 Ambiguous.

1 A. So to clarify, the data that we used
2 pertained to loans that all had the same maturity,
3 and we undertook some theoretical analysis that
4 provided an example of how that payment/interest
5 bias, as we call it, could be more severe on those
6 loans and less severe on loans with longer maturity.

7 There was a data-based part of it
8 that used loans that all had the same maturity in
9 the question.

10 Q. Okay.

11 And was that maturity one year?

12 A. Yes, it was 12 months, as I recall.

13 Q. Okay.

14 And for those loans, the ones with
15 the one-year maturity, that was where you and your
16 co-author identified significant underestimation of
17 true interest rate by the consumers; is that right?

18 A. Yes. Underestimation of the APR or
19 annual percentage rate.

20 Q. Okay.

21 Now, is it fair to say that -- well,
22 let me have you -- I'm going to withdraw the
23 question, and just ask you to turn to page 7 of
24 the -- of the document.

25 This will be page 2812 of the paper.

1 A. Okay.

2 Q. All right.

3 Now, under B, do you see where it
4 says, "B. New Evidence: Payment/Interest Bias on
5 Hypothetical Loans"?

6 A. Yes.

7 Q. It says there, "We build on the prior
8 work above in several ways. We start by presenting
9 nationally representative empirical evidence on
10 payment/interest bias from two previously untapped
11 sources, the 1983 and 1977 Surveys of Consumer
12 Finances."

13 Have I read that correctly?

14 A. Yes.

15 Q. Those were data sets that were developed
16 completely independently of anything you were doing;
17 is that right?

18 A. I didn't write those surveys or the
19 questions. That's correct.

20 Q. Okay.

21 I mean, you wrote this paper in
22 2009; right?

23 A. We published it in 2009. It was written
24 before then, but it post-dated the surveys.

25 Q. By quite a number of years; correct?

1 A. Yes, if -- in the case of 1983, if we
2 started the paper in 2004, that would have been 21
3 years.

4 Q. Okay.

5 The surveys were published by the
6 Federal Reserve Board; is that correct?

7 A. Yes. The Survey of Consumer Finances is
8 administered by the Fed.

9 Q. Okay.

10 Is there -- and it's -- that survey
11 is administered without regard to any litigation
12 interest; is that fair to say?

13 A. I'm not sure I could tell you why it's
14 administered or how it relates to any litigation.

15 Q. Okay.

16 Is it your understanding that the
17 survey is administered annually or on some periodic
18 basis?

19 MR. HARRINGTON: Objection. Lack of
20 foundation.

21 A. I haven't kept up with the
22 administration frequency, but I can tell you that in
23 the past, it was administered at various points
24 every six years.

25 Q. Okay.

1 In your --

2 MS. VAN KIRK: Would it be okay if
3 we take a -- just interrupt to take a quick break
4 for a moment?

5 (Clarification requested by the Court Reporter.)

6 MS. HILMER: Okay. Well, let's go
7 off the record for a moment.

8 MS. VAN KIRK: May we take a
9 five-minute break? Yeah. Thank you.

10 THE VIDEOGRAPHER: We're going off
11 record. The time is 9:09.

12 (RECESS, 9:09 a.m. - 9:14 a.m.)

13 THE VIDEOGRAPHER: We're back on
14 record. The time is 9:14.

15 BY MS. HILMER:

16 Q. All right, Dr. Stango, before we went
17 off record, we were talking about Exhibit 479, which
18 is your 2009 paper on exponential growth bias, and
19 so let's go back to that.

20 We were on page 7 of the document,
21 and talking about the particular survey.

22 Is it fair to say that you, in
23 utilizing these two surveys, 1977 and 1983 Surveys
24 of Consumer Finance, you found significant -- well,
25 significant data on household financial information?

1 MR. HARRINGTON: Objection.
2 Leading.

3 A. I'm not sure what you mean by
4 significant information in that particular
5 situation.

6 Q. Why don't I withdraw the question and
7 ask this: Why did you use these two surveys?

8 A. We describe why we use the surveys in
9 the paragraph under heading B there.

10 "We used the 1983 SCF because it has
11 the most recent (and, as far as we know, the only)
12 nationally representative data on both
13 payment/interest bias and household financial
14 outcomes."

15 So stopping there, as I recall, and
16 it was a while ago when we wrote this paper, later
17 SCFs did not ask the survey questions that allowed
18 us to calculate payment/interest bias.

19 And the next sentence says, "We used
20 the 1977 SCF because it contains richer data on
21 payment/interest bias than the 1983 survey."

22 And as I sit here today, not having
23 re-read the paper in a while, I can't be familiar
24 with all the details of what that would be, but
25 that's what we say there.

1 Q. Did those surveys also contain
2 demographic information.

3 A. The -- as I recall, the SCF from 1983,
4 which was what we used in most of the statistical
5 analysis that comes later in the paper, did contain
6 demographic information such as income, education,
7 and so on.

8 Q. Did it contain information about
9 household size?

10 A. Again, it's been a while since I've
11 reviewed this paper, and I could take a quick look
12 and refresh myself on the details, but as I sit here
13 right now, I can't recall whether it contained
14 household size or whether we employed that in any of
15 the statistical analysis that we did.

16 Q. Okay.

17 You were interested in having a data
18 set that was more representative of the national
19 population, though; is that fair?

20 A. I'm not sure that I would say we were
21 interested in it for any particular reason going
22 into the research.

23 As I said, we used it primarily
24 because it had the survey question we were most
25 interested in.

1 Q. Okay.

2 Did you impose any controls in
3 conducting your research with this data?

4 A. I'm not sure what you mean by "controls"
5 in that specific context.

6 Q. Okay.

7 The -- let me draw your attention to
8 page 5 of the paper -- of the PDF. This is page
9 2810 of the paper. Just let me know when you're
10 there and then I'll direct your attention further.

11 A. I'm on page 2810.

12 Q. Great.

13 If you look at the bottom paragraph
14 that begins, "Fourth and finally," do you see there,
15 it says, "It is possible that our measure of bias is
16 correlated with unobserved elements of preferences
17 or expectations. Our controls do include measures
18 of time preference, risk aversion, and income
19 expectations, making it unlikely that they are
20 omitted variables driving the results. However, we
21 lack measures of 'behavioral' biases such as time
22 inconsistency, loss aversion, or optimism."

23 Have I read that correctly?

24 A. Yes.

25 Q. So there were certain controls that you

1 were able to employ, but others that you were not;
2 is that fair to say?

3 MR. HARRINGTON: Objection.
4 Mischaracterizes the document.

5 A. So the sentence describes the
6 statistical analysis that we did, and the controls,
7 as we called them, would be a set of variables
8 included in that statistical analysis, and this
9 sentence or sentences simply describe the sets of
10 variables in the data that we used as control
11 variables, and notes that there were some other
12 variables, such as time inconsistency, that we did
13 not employ in the analysis here.

14 Q. Those variables that were not employed,
15 are they behavioral factors that you study as part
16 of your work as a behavioral economist?

17 A. They are behavioral biases, yes.

18 Q. What is the biases of optimism --
19 withdraw the question.

20 What is the bias of optimism?

21 A. People can be optimistic about a variety
22 of things, and in fairness to other work, I would
23 say other people might define "optimism bias"
24 differently than I would.

25 But a specific example of something

1 one might call optimism would be a belief that one's
2 income is going to be higher than -- in the future
3 than it actually would be.

4 Q. Okay.

5 Is that a bias that you have
6 observed with some frequency in your work?

7 A. I --

8 MR. HARRINGTON: Objection.

9 A. I'm not sure what you mean by
10 "frequency."

11 I would say that it's a -- some -- a
12 behavioral bias that has been studied by other
13 people, and one that some of my own survey research
14 has tried to identify in certain groups of survey
15 respondents.

16 Q. Okay.

17 Have you, in fact, identified it as
18 a behavioral factor in consumer financial
19 decision-making?

20 MR. HARRINGTON: Objection.

21 Ambiguous.

22 A. It's a little bit of a general question.

23 What I would say is that some of my
24 other survey research has attempted to estimate the
25 extent to which different people have different

1 levels of optimism, and without having that research
2 in front of me, I couldn't give you a detailed
3 description of every way in which we've employed
4 that variable, but part of the purpose of that
5 research project was to correlate a wide range of
6 behavioral biases with certain household financial
7 outcomes.

8 Q. Okay.

9 Let me ask you to turn to the next
10 page; this is page 6 of the document, page 2811 of
11 the paper.

12 A. I see it.

13 Q. Okay.

14 And at the very top, it says, "It
15 may therefore be the case that individuals with
16 exponential growth bias have biases in other
17 dimensions as well, and that those biases drive our
18 observed relationship -- relationships between
19 payment/interest bias and financial decisions." (As
20 read.)

21 Have I read that correctly?

22 A. Yes.

23 Q. So, in this sentence, is it fair to say
24 that you were open to the idea of alternative
25 possibilities for the phenomenon that you observed

1 in your study?

2 A. This sentence is a statistical caveat
3 that allows for the possibility that some of the
4 correlations we observe could be driven by things
5 within our data in this case, and some could be
6 driven by things that we don't measure.

7 Q. Okay.

8 In your academic work, is it typical
9 for you to include such a statistical caveat when
10 you are describing observations in a data set?

11 MR. HARRINGTON: Objection. Vague.

12 A. I wouldn't refer to it as typical. I
13 would say that in any statistical analysis, it would
14 be our goal in our research to make the appropriate
15 statistical caveats where they would apply.

16 Q. Okay.

17 Now, turning to the next paragraph
18 on that same page, the second sentence says, "But
19 most work in household finance continues to assume
20 that consumers correctly perceive the decline, or
21 increase, in future consumption that results from
22 borrowing, or saving, today. Our findings suggest
23 that exponential growth bias leads consumers to get
24 these assessments wrong, and to err systematically
25 in particular directions that tilt portfolios

1 towards short-term debt, and away from long-term
2 saving, increase borrowing and reduce saving, and
3 depress overall wealth accumulation." (As read.)

4 Have I read that correctly?

5 A. Yes.

6 Q. Okay.

7 Has any of the work that you've done
8 since 2009 caused you to change that conclusion?

9 A. I would say no. I don't think I've done
10 any research that would directly contradict the
11 findings -- the statement here that our findings
12 suggest that exponential growth bias leads consumers
13 to get these assessments wrong, and in particular,
14 that some consumers get them more wrong than others.

15 Q. Okay.

16 Let me direct your attention to page
17 19 of the PDF, and this is page 2824 of the paper.

18 A. I can see it.

19 Q. Okay. Great.

20 So maybe in the bottom third of the
21 page, there's a paragraph that begins, "A second set
22 of alternative explanations."

23 Are you with me?

24 A. Yes.

25 Q. Okay.

1 That paragraph says, "A second set
2 of alternative explanations concerns the bias
3 maturity relationship.

4 In this case, there are plausible
5 complementary explanations for one fact; that
6 consumers correctly assess the interest rates on
7 their long-term loans.

8 One such explanation is that
9 consumers learn and remember their mortgage rates
10 because the stakes are high.

11 Another explanation is that
12 enforcement of the APR disclosure mandated by the
13 Truth in Lending Act, or TILA, is effective for
14 mortgages.

15 Indeed, our related work provides
16 evidence consistent with this hypothesis. TILA has
17 more bite for banks than non-banks, and banks
18 dominated the mortgage market during our sample
19 period.

20 So both of these factors could
21 explain why consumers have accurate and precise
22 knowledge of interest rates on long-term loans.
23 Neither explains payment/interest bias on short-term
24 loans, however."

25 Have I read that correctly?

1 A. Yes.

2 Q. So is it fair to say that your
3 alternative explanation that you explain here
4 includes the impact of a Federal regulation
5 mandating disclosures of annual percentage rates for
6 home mortgages?

7 MR. HARRINGTON: Objection.
8 Unintelligible.

9 A. I'd like to hear the question again.

10 Q. Okay. I'll just restate it.

11 Is it fair to say that in
12 considering why exponential growth bias affects
13 consumers less for long-term loans like mortgages,
14 you took into account the impact of Federal
15 regulation, the Truth in Lending Act, in mandating
16 disclosures to consumers on long-term loans like
17 mortgages?

18 MR. HARRINGTON: Objection.
19 Unintelligible.

20 A. I'm not sure that we estimated whether
21 bias affected consumers less. The set of data
22 points that we discuss here has to do with what we
23 call the bias maturity relationship, which is simply
24 the link between what we could call payment/interest
25 bias and the length of the loan.

1 Again, it's been a while since I
2 wrote this paper, so I would have to go back and dig
3 into it again to recall exactly every detail here.

4 But the -- I think it's fair to say
5 that we found different bias maturity relationships
6 for mortgage loans, and that we, again, are making a
7 caveat about potential alternative explanations for
8 a pattern in our data, one of which is the Truth In
9 Lending Act, as we say here, and its potential
10 effectiveness on mortgage disclosure.

11 Q. Let me ask you, if you will, to turn to
12 page 25 of this document.

13 And the page number is 2830.

14 A. I see it.

15 Q. In the text underneath the table, do you
16 see references to a variety of controls that you
17 utilized within your study?

18 A. Yes.

19 Q. Is it typical in your practice when
20 you're studying data to determine what controls are
21 appropriate and to apply them?

22 MR. HARRINGTON: Objection.
23 Ambiguous.

24 A. Again, I wouldn't make a
25 characterization about what's typical.

1 But, in this particular case, we
2 were estimating a statistical relationship between
3 payment/interest bias and household financial
4 outcomes and the statistical approach that we chose
5 to use in this instance involved identification of a
6 set of control variables that we thought would be
7 appropriate in this situation to include as what I
8 would call right-hand side regression variables.

9 Q. What's the point of using controls in a
10 study?

11 A. There could be many different points. I
12 would say that in this particular instance, we were
13 interested in identifying correlations between
14 payment/interest bias and outcomes.

15 And the correlations between those
16 two things could, as I said earlier, be reflective
17 of links between payment/interest bias and outcomes
18 or other things if those things are not included as
19 controls.

20 So the control function approach is
21 an attempt to -- to identify correlations that
22 account for other things, essentially.

23 Q. Okay.

24 Is a purpose of controls to isolate
25 the specific topic that you're studying and trying

1 to test?

2 MR. HARRINGTON: Objection.

3 Ambiguous.

4 A. I'm not sure exactly what you mean by
5 "isolate a particular topic."

6 Again, I think it's a statistical
7 technique that allows one to estimate correlations
8 between certain variables, allowing for variation in
9 the others.

10 Q. Okay.

11 Does the use of controls lead to
12 more reliable outcomes?

13 MR. HARRINGTON: Objection.

14 Ambiguous.

15 A. I don't know exactly what you mean by
16 "reliable" there.

17 I think that the control function
18 approach changes the interpretation of the
19 correlation, and, again, it changes it from one that
20 would simply reflect what I would call a raw
21 correlation between two variables to one that
22 reflects a correlation between two variables
23 allowing for -- or controlling for, as we would say,
24 the variation in the other control variables.

25 It's two different ways of

1 estimating the correlation, and they -- it changes
2 the interpretation of the correlation.

3 Q. Do you use controls to test the validity
4 of your hypothesis?

5 A. Again, the use of the control function
6 approach would change depending on the statistical
7 environment and the research question.

8 Here, we were -- again, we were
9 linking payment/interest bias to outcomes, and the
10 question is -- that we wanted to ask was: What is
11 the link between those two things, accounting for as
12 many other household characteristics as we could
13 usefully measure and include in the model?

14 And the list of control functions
15 there -- or control variables, excuse me, is the set
16 of those household characteristics that we wanted to
17 account for.

18 That does change the statistical
19 model and how somebody might interpret it.

20 Q. Just looking in this first paragraph, do
21 you see some of the data that you actually had
22 available here in these surveys included the number
23 of members in the household, gender, education,
24 race, age, marital status, health status, years with
25 current employer, industry, and occupation?

1 A. Yes.

2 Q. Does it also include data about whether
3 a household had been denied credit or discouraged
4 from applying in the past few years and whether the
5 household has a credit card?

6 A. Yes.

7 Q. Okay.

8 Did you use those data?

9 A. Again, I'd have to look at the paper in
10 detail to see exactly when and where and how we
11 might have used those data.

12 They may appear in some tables, but
13 not others, or in some of the empirical models, but
14 not others.

15 It's been a while, as I said, since
16 I've looked at this, and this may simply be a list
17 of all the controls we had at our disposal, and
18 there may be certain models that included some of
19 them, but not others.

20 It's -- it could depend, depending
21 on which of the analyses we're talking about here.

22 Q. Let me help you out here.

23 Why don't you take a look at page
24 28, which is a table. This is page 28 of the
25 document, and 2833 of the paper.

1 The table continues onto the next
2 page, 2834.

3 Do you see it?

4 A. Yes.

5 Q. Do you see some of the demographic
6 information listed there on the left side as an LHS
7 variable?

8 A. Just to be clear, I believe that the LHS
9 variable would be the column headers there --

10 Q. Okay.

11 A. -- as would the mean of the LHS.

12 And the variables listed below,
13 which may be the ones to which you refer, would be
14 the RHS in that nomenclature, or right-hand side
15 variables.

16 Q. Okay.

17 But just to be clear, there is
18 consideration in this table, or I should even say
19 analysis -- withdraw the question.

20 In this table on page 2833, there's
21 analysis of various demographic features of the
22 respondents; is that fair?

23 A. They're included as controls in these
24 models.

25 Q. Okay.

1 When you use controls in this case,
2 in this particular paper, were you trying to reach a
3 kind of "all other things being equal result or
4 analysis"?

5 Is that how you use the control?

6 MR. HARRINGTON: Objection.

7 Ambiguous.

8 A. There were many purposes for using the
9 controls in this situation.

10 Again, I think the best way I can
11 put it is that we were tempting to estimate links
12 between bias, which would be the variables listed at
13 the top of the table there: Bias quintile 2 through
14 5, or bias unknown, and the LHS variables, the
15 left-hand side variables, in those columns.

16 The control variables are ones, in
17 this context, that are things that also could be
18 correlated with the left-hand side variables, and so
19 I suppose, loosely speaking, one could view this as
20 getting to -- closer to all things equal in the
21 statistical model than leaving out those controls
22 would be. It's not perfect by any means.

23 Q. Okay.

24 Was the point of this table to
25 demonstrate that exponential bias affects consumers

1 across a wide variety of demographic features?

2 A. I wouldn't put it quite that way. I
3 think I would say the point was to estimate links
4 between bias and a variety of outcomes controlling
5 for those demographic characteristics.

6 Q. Did you conclude that exponential both
7 bias affects consumers across these various
8 demographic features?

9 A. So again, I think the point really
10 wasn't to assess whether it affected things across
11 demographic characteristic categories, it was really
12 to allow for or control for differences in
13 demographics.

14 We in -- we did include the -- and
15 it's been -- again, it's been a while, as I look at
16 this, we did include consumers from many different
17 characteristics in the analysis and estimated links
18 between bias and outcomes for all of those
19 consumers, controlling for their demographics.

20 I think that's the best way I could
21 describe it.

22 Q. Did you conclude that low-income
23 households are more likely to show exponential
24 growth bias with respect to short-term loan
25 products?

1 A. I'd have to go back and look to see
2 whether we estimated that. I'm paging back to
3 Table 4.

4 Q. Could you give us the page?

5 A. And -- I'm sorry. That's on page 24 of
6 the PDF, and page 2829 of the document.

7 Q. Right.

8 A. And if I recall your question correctly,
9 it was about links between demographics and
10 payment/interest bias, and this table documents some
11 of those correlations.

12 Q. So my question specifically was whether
13 you concluded that low-income households are more
14 likely to demonstrate exponential growth bias by
15 taking on short-term debt and not realizing the
16 actual cost of interest.

17 A. So, in this table, we didn't ask whether
18 households were actually taking on debt because of
19 bias. What we did was we correlated bias as we
20 measured it by the hypothetical question, the loan
21 question that I described, with income.

22 And so what we would find -- if you
23 look at the top four rows of the table there, is
24 that -- and again, I'm -- I'm interpreting something
25 I haven't looked at in a while here, but relative to

1 bias income quintile 1, the table would document
2 differences in the degree of bias as you proceed
3 down through quintiles 2, 3, 4, and 5. And in that
4 instance, it doesn't look to me like there are
5 statistically significant differences between the
6 income quintile 1 and 2, or 1 and 4.

7 I mean, we could go into the
8 details, but that's what that table says.

9 Q. Okay.

10 Are you familiar with the sunk cost
11 fallacy?

12 A. I've heard the term, yes.

13 Q. What does it mean?

14 A. Again, I don't know if there's one
15 agreed-upon definition, but the fallacy could refer
16 to a situation in which a consumer does not ignore
17 what economists would call sunk costs.

18 Q. Okay.

19 Is it fair to say that sunk cost
20 fallacy -- an example of sunk cost fallacy is, for
21 example, if a person has paid for some subscription
22 service for some number of years, they continue to
23 pay it because they don't want to lose the money
24 they have already invested?

25 MR. HARRINGTON: Objection.

1 Unintelligible.

2 A. I haven't seen any evidence studying
3 that particular question.

4 Q. Okay.

5 Is -- okay.

6 What is an example of sunk cost
7 fallacy that you can give?

8 A. As I sit here today, off the top of my
9 head, again, I can give you a general definition,
10 not sure I could come up with a universally
11 applicable example right now.

12 Q. Is it a behavioral factor that you've
13 studied?

14 A. I'm trying to remember the sets of
15 behavioral biases that we've surveyed consumers
16 about in my research papers, and I actually don't
17 recall specifically having written on the topic.

18 Q. Okay.

19 Is it something that others in your
20 field have written on?

21 A. It's possible. Again, I've heard the
22 term, and have a general understanding of what it
23 could mean, but I wouldn't claim to know every
24 detail of what's been written about it in the past.

25 Q. Are you familiar with Richard Thaler?

1 A. I've heard his name, yes.

2 Q. He is a Nobel Prize winner in economics;
3 is that right?

4 A. I believe so, yes.

5 Q. And a developer of the behavioral
6 economics field; is that fair to say?

7 A. I think that's fair. I think he
8 received his Nobel for work that would fall into the
9 category of behavioral economics.

10 Q. Are you familiar with his explanation of
11 sunk cost fallacy?

12 MR. HARRINGTON: Objection.

13 Ambiguous.

14 A. I can't recall it off the top of my
15 head, if that's the question.

16 Q. Okay.

17 Do you have a definition of "fair
18 market value"?

19 A. I don't know that I would be able to
20 give you a universal definition that would apply to
21 that particular term. I've heard it before, of
22 course.

23 Q. Is it the price at which a willing buyer
24 will pay and a willing seller will sell something,
25 where the parties are at arm's length?

1 MR. HARRINGTON: Objection. Asked
2 and answered.

3 A. That could be one definition. I
4 haven't -- don't have any source for that in front
5 of me, but it could be one definition.

6 Q. Do you -- is there anything I've omitted
7 from that definition that you think should be
8 included in a definition of "fair market value"?

9 MR. HARRINGTON: Objection. Asked
10 and answered.

11 A. Again, I'm not sure. I've heard the
12 word used in different contexts, and it could have
13 different meaning in those different contexts, and
14 so I'm not sure there's a universal, single
15 definition.

16 Just to give an example, I recall
17 having encountered the term in preparing my income
18 taxes, and I don't recall having read that
19 definition of "fair market value" in doing my income
20 taxes.

21 Q. Okay.

22 MS. HILMER: Why don't we stop at
23 this point, and take a break. I think 10 minutes is
24 enough. Is -- does that work for you, Dr. Stango,
25 and you, Bill?

1 MR. HARRINGTON: Yeah. I'm good,
2 whatever, sure.

3 MS. HILMER: Okay.

4 MR. HARRINGTON: Or we can -- why
5 don't we go off.

6 THE WITNESS: Yeah.

7 THE VIDEOGRAPHER: So we're going
8 off record. The time is 9:55.

9 (RECESS, 9:55 a.m. - 10:06 a.m.)

10 THE VIDEOGRAPHER: Back on record.
11 The time is 10:06.

12 BY MS. HILMER:

13 Q. Okay.

14 Dr. Stango, have you ever worked for
15 one of the credit reporting agencies?

16 A. I've done some expert work for two of
17 them, I believe.

18 Q. Which ones?

19 A. TransUnion and Equifax.

20 Q. Okay.

21 The third one is Experian; right?

22 A. Yes.

23 Q. Have you ever had any involvement in
24 developing any of those companies' credit scoring
25 algorithms?

1 A. I haven't been employed in that
2 capacity, no.

3 Q. What about FICO; have you ever been
4 involved in developing scoring algorithms for FICO?

5 A. No, I haven't worked for FICO.

6 Q. All right.

7 Do you know how many scoring
8 algorithms exist?

9 A. No. I understand that there are many,
10 but I don't know the specific number.

11 Q. Do you understand that some scoring
12 models are proprietary?

13 A. Yes. I believe that that's the case.

14 Q. Have you ever studied whether a consumer
15 score under one company's model may be materially
16 different from a score under another model?

17 A. I'm taking some time to answer the
18 question here because I'm trying to recall the
19 credit file and credit score data that I've used in
20 my own research.

21 Some of my research has employed
22 credit score data. I don't know that any of it
23 explicitly examines differences in scores or
24 different algorithms that would apply to the same
25 consumer, specifically.

1 Q. Would you need to have consumer-level
2 data in order to conduct such a study?

3 A. I suppose it would depend on what the
4 purpose of the study is, and what the question was.
5 If the question is whether scores could differ, that
6 might involve using higher level data.

7 But if one wanted to conduct
8 consumer-level analysis of differences in scores,
9 and, for example, links between them and other
10 things, then it's possible consumer-level data might
11 be more useful.

12 Q. Okay.

13 Have you ever had access to
14 consumer-level data possessed by the credit
15 reporting agencies?

16 A. I may have had access to some of that
17 data as part of some of my expert work, although I
18 can't recall the details as I sit here. And in some
19 of my own research, I and my co-author employed --
20 pardon me. We employed anonymized, but
21 individual-level credit file data that included
22 credit scores.

23 Q. Okay.

24 Did the consumers consent to that?

25 A. Yes.

1 Q. Okay.

2 Would you need to have consumer
3 consent in order to access consumer-level data that
4 the credit reporting agencies have?

5 A. I'm not sure for what purpose you're
6 talking about, but as a researcher, yes, one might
7 need to obtain consent before obtaining
8 consumer-level credit file data, and in some of my
9 own work, I've written questions asking for --
10 consumers for such consent.

11 Q. Okay.

12 Just to close the loop on this --
13 this area, is it correct to say that you have not
14 studied specifically whether different scoring
15 models could yield substantially different scoring
16 outcomes for the same consumer?

17 A. So if you're talking about my individual
18 research, the answer would be no.

19 Q. Okay.

20 Have you reviewed studies that did
21 that?

22 A. As part of the work I did in preparing
23 for this case and some others, I've reviewed studies
24 of the credit scoring industry.

25 And although it wasn't the focus of

1 my report in this case, I believe that some of them
2 discuss possible differences in credit scores across
3 the three main CRAs that could arise for the same
4 consumer.

5 Q. Okay.

6 Did you do any inquiry to determine
7 why those differences might happen?

8 A. In the context of writing my report for
9 this case? No.

10 Q. Otherwise?

11 A. I can't recall having done that.

12 Q. Have you utilized any -- I'll withdraw
13 the question.

14 In connection with your report in
15 this case, have you utilized any of the work or
16 conclusions done by John DelPonti Jr.?

17 A. No.

18 Q. In your work on this case, have you used
19 any of the work done or the report submitted by John
20 Ulzheimer?

21 A. I don't believe I've seen that report,
22 no.

23 Q. Other than Cornerstone and the resources
24 cited in your report, have you obtained any
25 information from anyone else that you utilized in

1 rendering your opinions in this case?

2 A. I'd like to hear the question again,
3 please.

4 MS. HILMER: Please read it back.

5 (The record was read back by the Court Reporter.)

6 A. I had a Zoom call with -- and -- excuse
7 me, someone involved with the production of data in
8 the case. His name was Tony Lam, I believe.

9 Q. Okay.
10 What was the nature of that
11 conversation?

12 A. It was a call to familiarize me with the
13 data that formed the basis for my analyses in the
14 report.

15 Q. Okay.
16 Have you seen Mr. Lam's declaration
17 concerning the data?

18 A. I'd have to double-check my records to
19 see whether it was something that I reviewed and/or
20 relied on.

21 Q. Okay.
22 We may get to that later.
23 Actually, why don't we just bring it
24 up.

25 I'll ask my colleague to bring up

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REDACTED

1 ERRATA SHEET

2

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4 PAGE/LINE CHANGE REASON FOR CHANGE

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25 SIGNATURE OF WITNESS

DATE

CERTIFICATE OF REPORTER

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I, Marjorie Peters, RMR, CRR, Notary Public,
the Court Reporter before whom the foregoing
examination was taken, do hereby certify that the
foregoing transcript is a true and correct record of
the proceedings; that said proceedings were taken by
me stenographically and thereafter reduced to
typewriting under my supervision; and that I am
neither counsel for, related to, nor employed by any
of the parties to this case and have no interest,
financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and
affixed my notarial seal this 16 day of December,
2021.

My commission expires October 31, 2024.

NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA